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## **CORE AREA TERRITORY PLANNING FOR OPTIMIZING DRIVER FAMILIARITY AND ROUTE FLEXIBILITY**

### **ABSTRACT OF THE DISCLOSURE**

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Systems, methods, and apparatuses for route planning are disclosed. The disclosure in one embodiment addresses the task of planning optimal delivery routes that satisfy a stochastic daily demand while promoting driver familiarity over time. A model for estimating the value of driver familiarity is disclosed. Both an empirical and a mathematical model for estimating the value of route consistency are disclosed. Models for completing a Core Area Route Design are provided, an embodiment of which involves the concepts of combinatorial optimization, meta-heuristic algorithms, tabu search, heuristics, network formulation modeling, and multi-stage graph modeling. Methods for ordering an optimal stop sequence with minimal cost are disclosed.

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